# City of Tigard

# Sustainability Action Plan

October 22, 2013

*"A sustainable community that can meet the needs of the present without compromising the needs of the future."*

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# Tigard Sustainability Plan

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## Introduction

In 2011, the Tigard City Council expressed a desire— in its goal setting session—to develop a strategy around sustainability with the ultimate goal being to produce a plan that would:

1. Express the city's definition of sustainability;
2. Document the sustainable efforts the city has already accomplished; and
3. Lay out a framework and plan for sustainable goals and efforts moving into the future.

A work plan was developed around this goal and was assigned to the Public Works Department because many of the existing sustainability efforts have roots in the daily work carried out by that department. Public Works staff met with council in September 2011 and worked together on the following:

- Staff produced a list of existing sustainable efforts and committed to continue developing that list;
- Staff and council discussed the work plan and agreed on next steps;
- Council developed a definition of a sustainable community as follows: "A sustainable community that can meet the needs of the present without compromising the needs of the future."
- Council and staff discussed and agreed to the following general milestones of this effort:

| | |
|---|---|
| Conduct Sustainability Assessment | 2012 |
| Set Sustainability Goals | 2013 |
| Develop Sustainability Plan | 2014 |
| Implement Plan | 2015 |
| Monitor/Evaluate Implementation Progress | 2016 |

The council next set a goal in 2012 to "Evaluate the city's sustainability efforts on an ongoing basis." This goal was also assigned to the Public Works Department to coincide with its efforts already underway. Staff completed the inventory of existing sustainability efforts (sustainability assessment) and developed a scope of work for an outside consultant to assist with the next two milestones of setting goals and developing a sustainability plan. Due to budget constraints, the direction was for staff to work toward a draft sustainability action plan that would initially be "public works specific," but could be enhanced and amended in future years as other departments became involved with the plan.

Staff engaged other departments to create a Sustainability Steering Committee; this group was largely made up of key leaders in the Public Works Department, along with the city's Values Team. And because the city lacks in-house expertise in sustainability, a contract was let with Brightworks to help

the Public Works Department and the Steering Committee develop a draft plan. The plan includes input from the city's Values Team and integrates with Tigard's *2027 Comprehensive Plan*.

## Executive Summary

The City of Tigard was incorporated in 1961 and today is a clean, livable and affordable community. Located in southeast Washington County, about 15 minutes from downtown Portland, Tigard's population in 2011 was an estimated 48,415 residents. As a community, Tigard strives to blend the amenities of a modern city with the friendliness and community spirit of a small town.

In recent years, the city has placed an increasing focus on resource conservation initiatives. It has formally defined a sustainable community as one that can "meet the needs of the present without compromising the needs of the future." The city has demonstrated its commitment to sustainability through several measures to quantify and improve efficiency and resource use. The city's efforts have provided positive results, saving the city money and increasing the health and well-being of city employees and citizens. The sustainability action plan will provide the city a comprehensive plan with measurable goals. By developing a comprehensive plan, the city will leverage its values and align its investment to the areas of greatest opportunity to our citizens.

Around the region there have been initiatives related to sustainable practices that have helped guide Tigard's efforts, including:

- Legislation in 2007 mandating *Renewable Energy Portfolio Standards*, which require large power companies to obtain 25 percent of their energy from renewable resources by 2025; and
- Legislation in 2009 directed Metro to develop "Climate Smart Communities" and mandated reductions in greenhouse gasses generated by cars and trucks by the year 2035.

The following *Sustainability Action Plan: A Vision for 2012 – 2020* represents the first concerted and comprehensive effort to define—through the lens of sustainability—the city's past, present and future efforts. Sustainability, however, is not new to the City of Tigard. Rather, sustainability aligns with long-held values and a commitment to protect and conserve the city's finances, natural resources and quality of life, as well as the broader environment.

In 2006, the City Council made the decision to adopt "A Place to Call Home" as the tagline for the city. The tagline represents a commitment to a city that everyone could truly be proud of. In an effort to further this vision, the city implemented three values for staff to reflect and embody. These values are:

Respect and Care – *We will treat people well*

Do the Right Thing – *We will go the extra mile to exceed expectations*

Get it Done – *We will focus on solutions—not excuses*

These existing values represent a powerful statement of intent of the community of Tigard. Each of these values provides direction on how the city should consider and address sustainability in its operations and for Tigard citizens. Looking through the lens of sustainability, these same values pose implied questions:

Respect and Care

- ✓ How should a community respect and care for the land and environment it inhabits?
- ✓ How should the city act today to respect and care for the citizens of Tigard in the future?

Do the Right Thing

- ✓ What changes should the city make in our business practices today to ensure a healthy community in the future?

Get it Done

- ✓ How should the city's day-to-day operational needs be balanced with human health and environmental quality?
- ✓ What are the most meaningful actions the city can take right now, and which should the city plan for tomorrow?

On January 10, 2012, the City Council set a goal to "evaluate the city's sustainability efforts on an ongoing basis." The intent of this goal was to define, monitor, evaluate and improve the city's investments in sustainability. This plan builds upon the work of the city's Values Team, was driven by the city's Sustainability Steering Committee, and leverages and complements similar efforts in Northwest Oregon and beyond. In 2011, the City Council established the following defining statement for Tigard related to sustainability:

*A sustainable community that can meet the needs of the present without compromising the needs of the future.*

The sustainability action plan focuses on four Sustainability Action Areas, each chosen because it address important and impactful sustainability issues, offers potential meaningful benefits for Tigard and is currently overseen by the city. Each Sustainability Action Area is matched with a specific goal to be achieved by the year 2020. The plan will then break down each area by listing achievements already attained by the city, establishing associated performance measures and describing specific strategies for how the city can achieve the goals. The following are the four Sustainability Action Areas with their respective goals:

I. Energy Management & Transportation: Reduce fossil fuel energy usage by 20 percent with energy efficiency, renewable energy and green power. Expand the city's inventory of pedestrian and bike facilities by 1 percent annually until 2020.

II. Water Management & Quality: Actively participate in regional programs, strategies and initiatives developed to direct the regional goal of diverting 64 percent of the annual waste stream from the landfill.

III. Waste Reduction & Recycling: Actively participate in regional programs, strategies and initiatives developed to direct the regional goal of diverting 64 percent of the annual waste stream from the landfill.

IV. Land & Habitat Conservation Management: Develop a sustainable funding methodology to ensure long-term maintenance of park and open space areas. Meet or exceed level of service ratios for parks and open spaces as recommended in the current version of the Park System Master Plan.

Conclusion

This plan will go into detail on each of the four focus areas above from a Public Works Department perspective, and will recommend appropriate goals, milestones, strategies and performance measures.

Phase II of this effort will involve other departments within the city or potentially become part of the city's draft vision plan. Those departments will be free to enhance the four focus areas listed, or they could consider other focus areas that may pertain to their departmental expertise. A brief Google search of other city and agency sustainability plans show other potential focus areas such as community health and well-being, education and outreach, procurement practices, and employee safety and health.

## Plan Scope and Integration

### Public Works Department Pilot

The City of Tigard strategically opted to focus on the Public Works Department in implementing a sustainability action plan. Public Works is responsible for the planning, design, construction, operation and maintenance of the city's major infrastructure systems. These systems include parks, streets, sanitary sewer, storm drainage, water, fleet and city facilities. The advantages of this pilot approach were:

- A smaller, initial scope was financially feasible given the city's resources.
- Public works touches many of areas across the city.
- It establishes the overall action plan framework for the entire organization.

Also, the pilot offers the opportunity to test, refine, and improve the framework before considering a broader and more complex organization-wide initiative.

### Further Integration of Plan

This action plan will be amended and refined as other departments in the city become educated as to the plan and expend their own efforts to add to or enhance strategies or performance measures within the plan. It is anticipated that the Community Development Department will be the next piece of the organization to review and amend this plan.

### Timeframe of Plan: 2012 - 2020

This sustainability action plan was developed in 2012. This is the year that will be used as a reference point and baseline for future improvements. The goals and targets within this plan are to be completed by 2020. The city will track and summarize annually the progress made on the plan. The city also intends to revisit—in a comprehensive manner—the plan in 2015 and again in 2020 to re-assess goals and plan for timeframes beyond 2020.

### Related Sustainability Planning Efforts and Initiatives

The City of Tigard's sustainability planning is nested within and informed and inspired by other related jurisdictions, as well as a growing national and international movement among local governments, including:

- ✓ Tigard's *2027 Comprehensive Plan.*
- ✓ Washington County's sustainability plan.
- ✓ Partners for a Sustainable Washington County Community.
- ✓ Metro's *Sustainability Plan for Metro Internal and Business Operations, August 2010.*
- ✓ International Council for Local Environmental Initiatives (ICLEI).
- ✓ Oregon legislation in 2007 mandating *Renewable Energy Portfolio Standards*, which require large power companies to obtain 25 percent of their energy from renewable resources; and
- ✓ Oregon legislation in 2009 directed Metro to develop "Climate Smart Communities" and mandated reductions in greenhouse gasses generated by cars and trucks by the year 2035.

Additional information about each of the plans and initiatives above are provided in Appendix I to this report.

### Guiding Principles of This Plan

- The concept of sustainability is linked to city policy.
- Lead by example with sustainable business practices.
- Balancing the economic, environmental and social needs of the community is essential to long-term sustainability.
- Public participation and community awareness are essential to building a sustainable city.
- Partnerships—among government and community—must be established to achieve goals.

Terminology Within This Plan:
For consistency, the Sustainability Steering Committee has defined the following terms within the context of the sustainability plan and action areas:

- Current State (2012 Baseline) and Accomplishments to Date: Current and past sustainability efforts relating to a sustainability focus area.
- Goal: Comprehensive, measureable, intended results.
- Milestones: Specific, desirable targets to show progress toward meeting a goal.
- Recommendations / Strategies: Professional and experiential advice from city staff and outside experts for specific actions to implement, or ideas for consideration, in support of one or more goals.
- Performance Measures: Specific, measurable progress benchmarks supporting one or more goals.

The city's Sustainability Steering Committee worked with a consultant (Brightworks) to review sample action plans from other municipal organizations, along with a list of potential focus areas and reached consensus on four Sustainability Action Areas addressing a wide variety of important and impactful sustainability considerations. For the city, each action area offers the potential for meaningful benefits, including:

I. Energy Management & Transportation
*Benefits:* Reduction in city operating costs for energy and fuel purchases, reduction in air pollutants, increased air quality and reduction in negative human health impacts.

II. Water Management & Quality
*Benefits:* Preservation of limited clean water resources through effective long-term management of infrastructure.

III. Waste Reduction & Recycling
*Benefits:* Reduction in waste to landfills, reduction in air pollutants and noise pollution from hauling trucks, and creation of business opportunities for recycling.

IV. Land & Habitat Conservation Management
*Benefits:* Increased opportunity for recreation and exercise, increased capacity of natural systems to cleanse air and water and provide healthy living environment, and preservation of valuable ecosystem services.

For each sustainability action area, the Sustainability Steering Committee developed goals, milestones (including targets or projects), performance measures, strategies and recommendations. These were created to guide future projects and actions and allow the city to measure its progress. In addition, the city has already made significant progress in many of these areas, and a summary of the prior and current actions is documented under the "Current State" section of each action area to showcase past and current successes; challenges and gaps for future efforts will also be discussed in each section.

# I. Energy Management & Transportation

The city's electrical, natural gas and petroleum usage imposes financial and environmental costs on the planet. Energy prices have been rising, putting pressure on household, business and government budgets alike. Only by taking advantage of abundant renewable resources, or reducing current use of these resources, will the city obtain energy security and avoid the environmental impacts of our building and transportation energy use.

Tigard obtains its electrical energy from Portland General Electric (PGE). PGE is under a state directive to include in its energy source portfolio renewable energy sources to account for 25 percent by 2025. Thus Tigard's source of energy is already highly sustainable, allowing the city to focus its energy sustainability efforts on reduction of consumption.

The city also recognizes the value of efforts that could lead to reduced use of vehicles and an increase in infrastructure that encourages and accommodates bicycling and pedestrian travel. To that end, the city plans for future expansion of its bicycle and pedestrian facility network and looks for ways to make existing vehicle infrastructure more sustainable.

Current State (2012 Baseline), Accomplishments & Goals

The City of Tigard is committed to the protection and conservation of natural resources. City efforts to achieve this goal have been through energy conservation in facilities and transportation systems. Energy management is relevant to the City of Tigard because it owns and manages:

- Eight building facilities totaling approximately 100,000 square feet that collectively use approximately 1,500,000 kWh of electricity.
- 148 fleet vehicles, which collectively use more than 90,000 gallons of petroleum each year.
- A network of approximately 24 traffic signals and 4,136 street lights.
- A transportation network of 314 miles of roadways and 90 miles of bicycle-friendly streets and off-road trails.

The city has demonstrated its commitment to sustainability through several measures to quantify and improve efficiency and resource use. The city's efforts in energy management have provided positive results, saving the city money and making efficient use of resources. The following is a list of accomplishments so far:

- ✓ Established an organizational Employee Commute Incentive Program (ECIP), aimed at reducing vehicle trips by employees to the worksite, contributing to a cleaner environment and less congestion on the roads.
- ✓ Upgraded buildings for energy efficiency: inductive lighting upgrades, motion sensors and timers, air-conditioning system improvements, building automation systems, and ENERGY STAR compliant roofs.
- ✓ Converted 98 percent of traffic signals to energy-efficient light-emitting diode (LED) bulbs and installed LED street lights along Burnham Street.
- ✓ Established a pavement management program (PMP) and implemented a street maintenance fee (SMF) that enables staff to plan for and fund on-going pavement treatments that will

prolong the life of pavements, thereby delaying complete failure of those pavements that would require complete reconstruction.

- ✓ Installed 11 solar-powered school zone "Speed Limit 20 when flashing" beacons, 11 solar-powered "Your Speed Is" driver feedback signs, six sets of solar-powered crosswalk beacons (19 beacons total), and 43 flashing yellow traffic signal heads allowing drivers to turn left when there is a gap in oncoming traffic.
- ✓ In partnership with Washington County and Oregon Department of Transportation (ODOT), improved traffic flow through a highly congested section of Pacific Highway (99W). This reduced vehicle idling emissions by hundreds of thousands of hours per year.
- ✓ Installed preventive maintenance crack sealing and slurry seals on 30 percent of total street mileage in the past three years. This measure extends the life of the pavement.
- ✓ Used a warm-mix asphalt for all city pavement overlays in 2012. Warm-mix is heated to a lower temperature and uses less energy than typical hot mix asphalt.
- ✓ Installed six electric vehicle (EV) charging stations.
- ✓ Purchased 22 alternative-powered and/or high-efficiency vehicles (of the city's 148 vehicles).

2020 Goal: Reduce fossil fuel energy usage by 20 percent with energy efficiency, renewable energy, and green power.

2020 Goal: Expand the city's inventory of pedestrian and bike facilities by 1 percent annually until 2020.

Energy & Transportation Management Matrix

| Milestones | Recommendations/Strategies | Performance Measures |
|---|---|---|
| • Reduce electricity use in city buildings by 5 percent by 2015.<br>• Reduce natural gas use in city facilities by 5 percent by 2015. | • Complete the analysis to determine if conversion of existing streetlights to LED fixtures is a good, sustainable decision for the city.<br>• Complete an analysis on the use of green power and whether the city should use it.<br>• Evaluate whether city buildings should be ENERGY STAR compliant.<br>• Install solar panels with new construction.<br>• Purchase only ENERGY STAR equipment.<br>• Encourage Lake Oswego Tigard Water Partnership efforts to include energy-efficient pumps, HVAC, green technologies and to consider the purchase of green power. | • Annual electricity usage.<br>• Percentage of green power purchased from PGE.<br>• Annual natural gas usage. |

| | | |
|---|---|---|
| • Increase average city fleet fuel efficiency by 2 miles per gallon (mpg) by 2015. | • Replace fleet vehicles with higher fuel efficiency models. | • Annual petroleum usage (city fleet).<br>• Annual average mpg of city fleet. |
| • Increase bicycle and pedestrian infrastructure mileage by 1 percent every year. | • Make the completion of Fanno Creek Trail through Tigard a priority in Capital Improvement Plan (CIP) planning.<br>• Ensure that CIP's include bicycle lane improvements where applicable. | • Miles of bicycle lanes<br>• Miles of pedestrian paths and new sidewalks. |

# II. Water Management & Quality

The Public Works Department has the primary responsibility to operate, maintain, repair and expand Tigard's domestic water, wastewater and stormwater infrastructure while providing high-quality, dependable service to its customers.

The Tigard Water Service Area, for domestic water consumption, is comprised of the cities of Durham, King City, two-thirds of Tigard and unincorporated areas to the south and west of Tigard (Tigard Water District). The service area has 18,200 service connections supplying approximately 58,000 residents, making it the tenth largest water utility in the State of Oregon. The city provides safe and reliable drinking water that meets or exceeds all Environmental Protection Agency (EPA) and State of Oregon standards for water quality.

The wastewater and stormwater conveyance systems are managed by the Sanitary Sewer and Stormwater Divisions. These two divisions work in cooperation with each other to TV inspect, clean and repair the sewer and stormwater conveyance systems within Tigard's boundaries. Both programs are further managed at a regional level by Clean Water Services (CWS)—a county service district organized under ORS 451—that has legal authority for the sanitary sewerage and stormwater/surface water management within its boundaries. CWS serves as the National Pollutant Discharge Elimination System (NPDES) permit and the Municipal Separate Storm Sewer Systems (MS4) permit holder with the Oregon Department of Environmental Quality (DEQ) and the EPA. Tigard, along with the other cities in CWS' jurisdiction, serve as permit implementers. Tigard currently maintains and operates both systems in conformance with performance standards set by CWS and the regulatory permits.

Current State (2012 Baseline), Accomplishments & Goals

The City of Tigard is committed to water management and quality, as it is responsible for:

- Operation and maintenance of over 248 miles of domestic drinking water pipeline, over 165 miles of sewer pipeline, and over 125 miles of stormwater pipeline. The stormwater system also includes:
  - Annual maintenance of over 3,000 sumped catch basins. These basins help remove pollutants from stormwater before that water is discharged in local waterways.
  - Street sweeping, which annually collects approximately 2,200 cubic yards of oil, sediment and trash—debris that would otherwise be discharged in to local waterways.
- Operation and maintenance of irrigation systems at all city-owned facilities, including building locations and public parks.

The city has demonstrated its commitment to sustainability through several measures to quantify and improve efficiency and resource use. The city's water management and quality efforts have delivered positive results, saving the city money, meeting water quality standards and making efficient use of resources.

- ✓ The city conducts an annual water audit to report on customer consumption, unaccounted-for water, leak detection and number of customer accounts. The audits continue to show that previous conservation efforts have succeeded in that metered water sales have

continued to decline since 2008. Water sales for 2012 were the lowest since 1994. The five-year average for unaccounted-for water ratio (UFWR) continues to be well below the national recommendation of 10 percent. Tigard's per capita per day consumption is 110 gallons, well below most neighboring communities, based on the 2010 Water System Master Plan.

- ✓ Lake Oswego Tigard Water Partnership (LOTWP) projects will increase system capacity to deliver high-quality drinking water from the Clackamas River to the communities of Lake Oswego and Tigard. Together these two communities can secure long-term access to clean, safe water for less than it would cost them to do it alone.
- ✓ The city is also a member of the Clackamas River Water Providers (CRWP). This coalition of water providers organizes funding and coordinates efforts regarding source water protection, and public outreach and education around watershed issues, drinking water, and water conservation. The coalition promotes sustainable use of the Clackamas River.
- ✓ The city has an aquifer storage and recovery (ASR) program. ASR allows the city to store large quantities of water in an underground aquifer during the rainy season, when the region's water supply is plentiful, and then use that water during periods of peak demand in the summer.
- ✓ The city, in coordination with CWS, implemented a "fats, oils and grease" (FOG) abatement program. With more than 200 participating restaurants, wastewater treatment and maintenance demands have been reduced.
- ✓ The city has developed accurate inventory and mapping of all water-related system assets and manages them in via computerized maintenance management system (CMMS) and its geographic information system (GIS) mapping services. This ongoing effort improves efficiency in customer response and preventive maintenance and repair.
- ✓ To moderate water use, the city uses evapotranspiration (ET) electronic sensors and centralized controls for irrigation systems at city parks. The system takes into account soil and weather conditions to calculate the amount of water needed for specific plants.
- ✓ The city uses reclaimed water to irrigate sport fields at Cook Park.

As successful as the city has been with operation and maintenance of its existing water-related pipeline systems, it and many cities in our nation face a growing concern of how to plan for the ultimate replacement of those below-ground pipeline systems when they eventually reach their respective ends of life. The east coast, in particular, has been challenged by this reality for many years as water providers manage the nation's oldest pipeline infrastructure. Tigard can learn much from the work done by other cities in the nation, and even in our own region. Failure of any of these systems, combined with the lack of a comprehensive plan that enables cities to fund their replacement, jeopardizes public health and our environment.

In order to properly plan for the life cycle costs of infrastructure, cities develop and implement asset management plans. These plans help cities:

- Systematically track asset inventory.
- Routinely assess infrastructure condition.
- Predict risk of failure.
- Strategize as to the best practices of prolonging the life of assets.
- Make good decisions as to when the assets should be replaced.

It is recommended that Tigard make the investment in an asset management plan.

2020 Goal: Develop and implement an asset management plan.

Water Management & Quality Matrix

| Milestones | Recommendations / Strategies | Performance Measures |
|---|---|---|
| • Draft asset management plan by 2017. | • Work with staff to create a listing of sewer assets currently not accessible. Use five-year Capital Improvement Plan (CIP) to include projects to remedy these situations.<br>• Stay current with industry standard condition assessment practices.<br>• Ensure all new utility infrastructures designed and installed to the best engineering standards that increase life cycle and performance of assets.<br>• Ensure all sewer assets are accessible to maintenance crews.<br>• Research American Water Works Association's (AWWA) and other cities' practices related to condition assessment of domestic water pipeline.<br>• Develop a condition assessment process. | • Number of sewer overflows or backups (Goal =0).<br>• Percent of drinking water samples that meet / exceed water quality standards as set by EPA (Goal = 100 percent).<br>• Gallons per capita per day (GPCD) remains at or below 110. |

# III. Waste Reduction & Recycling

For decades, the importance of material conservation has been recognized as a means to make the best use of scarce natural resources. In recent years, there has been an increased emphasis on strategies like waste prevention, recycling and composting due to natural resources becoming less available. The City of Tigard is subject to state law which mandates several recycling and waste stream diversion strategies. Locally that program is managed via Metro in the form of the Regional Solid Waste Management Plan (RSWMP). This plan governs both the collection and disposal of all solid waste and recyclable products, including a new mandate to impose recycling on local businesses. The RSWMP sets a goal of diverting 64 percent of the region's solid waste. In 2012, Tigard area haulers reported achieving a 57-percent diversion.

Current State (2012 Baseline), Accomplishments & Goals

The City of Tigard is committed to the protection and conservation of natural resources, and waste reduction and recycling is part of that commitment. The city owns a variety of facilities and parks in which waste is generated during normal operation. The city continues to reduce waste generation and maximize recycling.

The city has demonstrated its commitment to sustainability through several measures to quantify and improve efficiency and resource use. The city's waste reduction and recycling efforts have yielded positive results, saving the city money and making efficient use resources. The following are a few examples:

- ✓ Reduction and recycling practices have been implemented at all city facilities.
- ✓ Through annual leaf collection events, the city's efforts lead to the composting and/or recycling of up to 800 yards of leaves per year.
- ✓ Electronic documents (instead of paper) are now widely used for construction project bidding and documentation.
- ✓ Recycled asphalt products (RAP) are typically used as part of paving mixes.
- ✓ Administer the solid waste and recycling hauler franchises, along with rules and regulations.
- ✓ The city manages the business recycling program mandated by Metro.

2020 Goal: Actively participate in regional programs, strategies and initiatives developed to direct the regional goal of diverting 64 percent of the annual waste stream from the landfill.

Waste Reduction & Recycling Matrix

| Milestones | Recommendations / Strategies | Performance Measures |
|---|---|---|
| • Achieve 60 percent solid waste diversion within city organization by 2015. | • Conduct a waste audit at a representative sample of city buildings and parks.<br>• Provide recycling, composting and waste containers at all city facilities and parks.<br>• Research and develop Capital Improvement Plan (CIP) opportunities for incentivizing waste reduction or requiring deconstruction, reuse and recycling rather than conventional demolition. | • Solid waste citywide (tons).<br>• Recycling citywide (tons). |

# IV. Land & Habitat Conservation Management

Parks and open spaces provide valuable recreational opportunities and ecological benefits within the urban environment. The city's parks are praised for their excellent upkeep and provide open lawn area, playground equipment, and trails for exercise and enjoyment.

Open spaces, including natural stream corridors and greenways, provide habitat for wildlife, shade for streams, and some recreational benefits where trails are permitted and/or constructible given the particular topography of the area. Tigard, in partnership with Clean Water Services (CWS), manages the Healthy Streams Program (HSP). One component of the program has citizen volunteers plant native shrubs and trees along stream corridors. Under the HSP, the city replaces outdated or undersized culverts with modern, appropriately-sized, fish-friendly culverts. Stormwater outfalls are also retrofitted by adding stormwater treatment improvements.

Stream corridors, and ultimately the Tualatin River, are further protected via land use regulations that require the treatment of surface water runoff. Constructed treatment facilities such as bioswales, rain gardens, treatment ponds, and other stormwater filtration systems are designed to treat and manage stormwater runoff before being discharged into the natural stream corridors. Vegetated facilities, such as bioswales and ponds also provide wildlife habitat. Land use regulations also require the planting of street trees and parking lot shade trees that, upon maturity, provide additional shade canopy to reduce the heat generated on paved surfaces.

Current State (2012 Baseline), Accomplishments & Goals

The City of Tigard is committed to preserving the natural environment for the enjoyment of its citizens and health of wildlife. Land and habitat conservation management is relevant to the city as follows:

- The city manages more than 450 acres of park land for recreation and ecological functions.
- Tigard manages its stormwater system in partnership with CWS under an intergovernmental agreement (IGA) mentioned in the Water Management & Quality section of this plan. As a part of managing the stormwater program, Tigard maintains over 3,000 sumped catch basins that help remove pollutants from stormwater before that water is discharged in local waterways. In addition, the city's street sweeping program collects approximately 2,200 cubic yards of oil, sediment and trash—debris that would otherwise be discharged in to local waterways.

The city has demonstrated its commitment to sustainability through several measures to enhance land and habitat conservation management. Efforts thus far include:

- ✓ In 2010, Tigard voters passed a $17 million general obligation bond to fund the purchase of real property for park land and to fund a limited amount of park improvements. Tigard staff has managed the bond proceeds which, to date, have resulted in the purchase of over 108 acres of new park and open space land.
- ✓ Tigard promotes and incorporates sustainable practices and design features for the master planning and development of all park facilities.

- ✓ Tigard park crews use mulching mowers. The mowers chop the grass in to fine clippings. Those clippings release nutrients back to the soil and reduce evaporation on lawns and sports fields. The use of mulching mowers eliminates the cost of disposing of clippings; it diverts 100 percent of the green waste from composting facilities.
- ✓ The city utilizes green street technology on all streets and pedestrian ways in the Downtown Urban Renewal District, including the Main Street Green Street, Burnham Street and WES station projects. Green street features include stormwater treatment planters, LED street lights, landscaping and other pedestrian amenities.
- ✓ The city supports the use of "low-impact development approaches", or LIDA, to stormwater treatment. LIDA techniques, including rain gardens and pervious pavement were used when the library was constructed.
- ✓ Under the HSP, city efforts since 2005 have resulted in the restoration of over 165 acres of riparian forest, the planting of roughly 98,000 native trees and shrubs, the replacement of four problem culverts, and the retrofitting of three untreated outfalls.

While the city has been successful in acquiring land for developed park and open space needs, the challenge comes in funding the ongoing operation and maintenance of the park land. While acreage of parks and open spaces has increased, the resources within the park maintenance division of public works has not. It is recommended that the city engage in efforts that will provide a sustainable funding methodology to balance growth of park land with available maintenance resources.

As regulatory requirements related to stream corridors and other natural environments continue to change, and likely become more restrictive, the city should also continue to work with agencies such as CWS to ensure that a sustainable balance can be reached between regulations and enjoyment of these areas by the city's residents. In addition, the city will continue its efforts to acquire additional park and open space areas to achieve the level of service (LOS) ratios recommended in the 2009 Park System Master Plan.

2020 Goal: Develop a sustainable funding methodology to ensure long-term maintenance of park and open space areas.

2020 Goal: Meet or exceed level of service ratios for parks and open spaces as recommended in the current version of the Park System Master Plan.

Land & Habitat Conservation Management Matrix

| Milestones | Recommendations / Strategies | Performance Measures |
|---|---|---|
| • Begin focused effort on park maintenance funding methodology in fiscal year 2015. | • Develop interdepartmental team to assist. Use a task charter document to serve as the foundation of the effort.<br>• Include citizen participation in the process.<br>• Budget should include funding for outside consultant. | • Annual revenue from park-related services.<br>• Annual number of park-related reservations.<br>• Acres of greenway under city stewardship.<br>• Acres of developed |

| | | |
|---|---|---|
| | | park land managed.<br>• Acres of parks/greenspaces per 1000 citizens. |
| • Complete park bond work by January 2014. | • Conduct inventory of ecologically sensitive areas.<br>• Target park acquisition around sensitive streams and ecosystems.<br>• Target park acquisition in underserved populations and locations. | • Acres of community parks under city stewardship (Goal = 3 acres/1000 residents).<br>• Acres of neighborhood parks under city stewardship (Goal = 1.5 acres/1000 residents).<br>• Acres of linear parks under city stewardship (Goal = 1.25 acres/1000 residents).<br>• Acres of open space under city stewardship (Goal = 4.25 acres/1000 residents). |
| • Continue HSP efforts through 2015. | • Target invasive species removal projects near native habitat.<br>• Coordinate culvert and outfall work with pertinent roadway and/or stormwater Capital Improvement Plan (CIP) projects.<br>• Evaluate HSP, along with CWS, in 2015 to verify ongoing efforts through 2025. | • Number of trees/shrubs planted.<br>• Number of priority culverts replaced.<br>• Number of significant stormwater outfalls retrofitted. |

## APPENDIX I:

List of Related Local and Regional Sustainability Plans and Initiatives

- Tigard's *2027 Comprehensive Plan* – In 2007, Tigard completed its most recent comprehensive plan, a 20-year vision for the city. The plan addresses a diverse set of 14 goals as defined by the Oregon Land Use Planning Program. Although the plan addresses many issues related directly to sustainability—citizen involvement, land use planning, agricultural lands, forest lands, natural resources, environmental quality, recreation, etc.—sustainability is not a focus nor integral principle the plan.

- Washington County's Sustainability Plan – In 2009, the Washington County Board of County Commissioners formalized its commitment to sustainability through a Resolution and Order. The county completed its first bi-annual *Internal Sustainability Work Plan* 2009-2011, with eight focus areas: administration, education and outreach; procurement; energy efficiency; fleet operations and employee commuting; recycling and waste reduction; green building and development; agriculture, landscaping and water; and remote access to county services.

  In 2011, Washington County used 2008 data to complete its first inventory greenhouse gas emissions associated with operations. Key findings indicated emissions could be attributed to three general categories as follows: 14 percent transportation (fleet, business travel and employee commute), 26 percent energy (natural gas, electricity, refrigerants and diesel for generators), and 60 percent supply chain (purchased goods and services).

  For its 2012-2013, the county broadened its sustainability efforts to also include community objectives focused around: transit-supported development, auto use reduction, preservation of rural farm and forest land; protection of waterways; and community waste reduction/recycling.

  The county should be considered an ally and a resource, as its sustainability plan and actions overlay and align with many of those the city is considering and undertaking.

- Partners for a Sustainable Washington County Community (PSWCC) – In recognition of the need to coordinate sustainability efforts throughout the county, in 2008 several Washington County agencies established PSWCCE. Now functioning as a membership organization, the group includes: the county, the cities of Banks, Beaverton, Cornelius, and Hillsboro, as well as Clean Water Services, Portland Community College Rock Creek, Tualatin Hills Parks and Recreation District, Tualatin Valley Fire and Rescue and Tualatin Valley Water District. PSWCC focuses on sustainability training, community outreach and collaborative projects.

  The PSWCC should be considered an ally and a resource for Tigard. Specifically, other participating cities may provide a successful model for Tigard.

- Metro's *Sustainability Plan for Metro Internal and Business Operations, August 2010* – Metro, the greater Portland area's tri-county, regional government developed a sustainability plan to address its internal and business operations. This plan includes an in-depth sustainability impacts and baseline analysis, along with strategies and actions with 3-, 5-, 10- and 15-year goals for greenhouse gas emissions and reductions, toxics reductions, waste reduction and recycling, water conservation and habitat and stormwater.

  Similar to Washington County and PSWCC, Metro should be considered a partner and resource.

- International Council for Local Environmental Initiatives (ICLEI). Founded in 1990, this association of Local Governments for Sustainability has more than 1,000 member cities, including 450 small- and medium-sized cities.

## APPENDIX II:

*City of Tigard*

### Sustainability Tracking System
### KWh History

*rev. 1*

| Energy Management & Transportation | *2008* | *2009* | *2010* | *2011* |
|---|---|---|---|---|
| Annual electricity usage (KWh) | | | | |
| Street (KWh) | 186,407 | 302,646 | 243,621 | 220,715 |
| Facilities (KWh) | 1,361,674 | 2,233,694 | 2,181,315 | 2,017,206 |
| Parks (KWh) | 58,788 | 131.860 | 126,031 | 144,312 |
| Water Facilities (KWh) | 1,254,996 | 2,009,328 | 1,343,404 | 1,466,427 |

### Sustainability Tracking System

*rev. 1*

| Energy Management & Transportation | *2012* | *2013* | *2014* | *2015* | *2016* | *2017* | *2018* | *2019* | *2020* |
|---|---|---|---|---|---|---|---|---|---|
| | | | *Goal: Reduce fossil fuel energy usage 20 percent by 2020.* | | | | | | |
| Annual electricity usage (KWh) | | | | | | | | | |
| Street (KWh) | 201,870 | | | | | | | | |
| Facilities (KWh) | 1,997,407 | | | | | | | | |
| Parks (KWh) | 134,036 | | | | | | | | |
| Water Facilities (KWh) | 1,542,627 | | | | | | | | |
| Percent of "green power" purchased from PGE | 0% | | | | | | | | |
| Annual natural gas usage (???) | 53,000 | | | | | | | | |
| Annual petroleum usage (gallons) | 90,000 | | | | | | | | |
| Miles of bicycle lanes | | | | | | | | | |
| Miles of pedestrian paths | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Water Management & Quality | | | *Goal: Develop and implement an asset management plan by 2020.* | | | | | | |
| Number of sewer overflows or backups (Goal = 0) | | | | | | | | | |
| Percent of drinking water samples that meet/exceed water quality standards as set by EPA (Goal = 100%) | | | | | | | | | |
| Waste Reduction & Recycling | | | *Goal: Actively participate in regional programs, strategies and initiatives developed to direct the regional goal of diverting 64% of the annual waste stream from the landfill.* | | | | | | |
| Solid waste citywide (tons) | | | | | | | | | |
| Recycling citywide (tons) | | | | | | | | | |
| Land & Habitat Conservation Management | | | *Goal: Develop a sustainable funding methodology to ensure long-term maintenance of park and open space areas.*<br>*Goal: Meet or exceed level of service (LOS) ratios for parks and open spaces, as recommended by the 2009 Park System Master Plan.* | | | | | | |
| Annual revenue from park-related services ($) | | | | | | | | | |
| Annual number of park-related reservations | | | | | | | | | |
| Acres of Community Parks under city stewardship (Goal = 3.0 acres/1000 residents) | | | | | | | | | |
| Acres of Neighborhood Parks under city stewardship (Goal = 1.5 acres/1000 residents) | | | | | | | | | |
| Acres of Linear Parks under city stewardship (Goal = 1.25 acres/1000 residents) | | | | | | | | | |
| Acres of Open Spaces under city stewardship (Goal = 4.25 acres/1000 residents) | 233 | | | | | | | | |
| Number of trees/shrubs planted | | | | | | | | | |
| Number of priority culverts replaced | | | | | | | | | |
| Number of significant stormwater outfalls retrofitted | | | | | | | | | |

## APPENDIX III:

Other Potential Focus Areas:

- Community Health & Well-Being
  *NOTE: the city's consultant suggested this as a focus area and Public Works considered it but determined that it falls outside of its departmental expertise. Some background and accomplishments are listed below for other departments to consider.*
  The City of Tigard is committed to efforts that lead to a healthy community and environment for its citizens. It is relevant to the city as follows:
    - Tigard supports the annual Tigard Festival of Balloons through in-kind services.
    - Tigard staff support the annual Christmas Tree Lighting ceremony on Main Street through in-kind services.
    - Tigard staff work with a Park and Recreation Advisory Board (PRAB) who serve as an advisory board to the council related to park and recreation needs.

  The city has demonstrated its commitment to sustainability through several efforts aimed at fostering a healthy community and environment. Efforts thus far include:
  - ✓ Installed 98 "countdown" pedestrian signals to help pedestrians safely cross busy streets and encourage walking trips.
  - ✓ Developed a Tigard Bike Map and a Downtown Walking Map to help people find good routes to walk and ride in Tigard.
  - ✓ Developed a community garden program, which has teamed local residents with the city to turn barren strips of right of way or otherwise unused public land into fruitful gardens.
  - ✓ Host drug take-back events and operates a pharmaceutical drop box where people can safely dispose on expired or unwanted medications. Proper disposal keeps drugs out of the reach of children and discourages people from dumping medications down the drain. Because wastewater treatment facilities are not designed to filter out medications, drugs that are dumped down the drain can eventually end up in local waterways.
  - ✓ Developed the Recreation Resource Guide, an online inventory of local recreation offerings in the Tigard area.

- Education and Outreach
- Procurement – Purchasing and Contracting
- Employee Safety and Health